



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

$$\begin{aligned}
& -\frac{3ac}{b^2} \left\{ \frac{(b^{\frac{2}{3}} - c^{\frac{2}{3}})^{\frac{5}{2}}(a^{\frac{2}{3}} - b^{\frac{2}{3}})^{\frac{1}{2}}}{c^{\frac{5}{3}}(a^{\frac{5}{3}} - c^{\frac{5}{3}})^2} \right\} - \frac{3ac}{2b^2} \left\{ \frac{a^{\frac{2}{3}}c^{\frac{2}{3}} - b^{\frac{4}{3}}}{a^{\frac{5}{3}}c^{\frac{5}{3}}} \right\} \\
& \times \left\{ \frac{(b^{\frac{2}{3}} - c^{\frac{2}{3}})^{\frac{1}{2}}(a^{\frac{2}{3}} - b^{\frac{2}{3}})^{\frac{1}{2}}}{a^{\frac{5}{3}} - c^{\frac{5}{3}}} \right\} \int_0^b (b^{\frac{2}{3}} - y^{\frac{2}{3}})^3 dy. \\
\therefore V = & \frac{4}{35} \pi b^3 + \frac{8}{35} abc \sin^{-1} \left\{ \frac{b^{\frac{2}{3}} - c^{\frac{2}{3}}}{a^{\frac{5}{3}} - c^{\frac{5}{3}}} \right\}^{\frac{1}{3}} - \frac{8}{35} b^3 \sin^{-1} \left\{ \frac{a(b^{\frac{2}{3}} - c^{\frac{2}{3}})}{b(a^{\frac{5}{3}} - c^{\frac{5}{3}})} \right\}^{\frac{1}{3}} \\
& - \frac{16}{35} abc \left\{ \frac{(b^{\frac{2}{3}} - c^{\frac{2}{3}})^{\frac{5}{2}}(a^{\frac{2}{3}} - b^{\frac{2}{3}})^{\frac{1}{2}}}{a^{\frac{5}{3}}(c^{\frac{5}{3}} - a^{\frac{5}{3}})^2} \right\} \\
& - \frac{8}{35} abc \left\{ \frac{a^{\frac{2}{3}}c^{\frac{2}{3}} - b^{\frac{4}{3}}}{a^{\frac{5}{3}}c^{\frac{5}{3}}} \right\} \left\{ \frac{(b^{\frac{2}{3}} - c^{\frac{2}{3}})^{\frac{1}{2}}(a^{\frac{2}{3}} - b^{\frac{2}{3}})^{\frac{1}{2}}}{a^{\frac{5}{3}} - c^{\frac{5}{3}}} \right\}.
\end{aligned}$$

Cor. If $b=c$, $V = \frac{4}{35} \pi b^3$.

If $a=b$, $V = \frac{4}{35} \pi a^2 c$.

Also solved by M. C. STEVENS.

PROBLEMS.

18. Proposed by J. M. BANDY, Professor of Mathematics, Elon College, North Carolina.

If the ordinate ST of any point T on a circle

$$x^2 + y^2 = r^2$$

be produced so that $ST \cdot TP = r^2$, prove that the whole area between the locus of P and its asymptotes is double the area of the circle.

19. Proposed by A. L. FOOTE, No. 830, Broad Street, New York City.

A and B are in a circular room 30 feet in diameter, A being at the center and B at the circumference. B runs around at the rate of 600 feet per minute and A pursues him at the rate of 100 feet per minute. How long will the race last, and how far will each have traveled till B is caught.

Solutions to these problems should be received on or before July 1st.